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MAR 24 2003  
TC 1700 MAIL ROOM

### REMARKS/ARGUMENTS

Applicant affirms the election of Group I, Claims 1 through 12 and 16 through 26, drawn to a glass composition.

The examiner has objected to the formatting of subscripts for chemical formulas and compositions. Appropriate correction has been made.

The examiner has requested deletion of the heading "Brief Description of the Drawings" and paragraph [0011] on page 3. Appropriate correction has been made.

On page 4, line 26, the word "matrice" should be "matrix". Appropriate correction has been made.

The examiner has commented that on page 6, paragraph [0020] it is unclear what example is referred to. The paragraph has been amended to refer to TABLE II.

Claims 1 through 3, 8 through 12, 16, 17 and 22 through 26 have been objected to because of the formatting of subscripts for chemical formulas and compositions. These claims have been amended to use the formatting requested by the examiner.

Claim 2 has been objected to as the examiner believes "RF<sub>n</sub>" in line 5 should be "RF<sub>x</sub>". The designation has been corrected by amendment to "RF<sub>x</sub>" to agree with the specification.

Claim 9 has been objected to as the word "TO" in line 5 should be lower case letters. Appropriate correction has been made.

Claim 12 had an extra ending period that has been removed by amendment.

Claims 2 and 22 through 26 have been rejected under 35 USC 112, second paragraph, as being indefinite: Claim 2 for failing to define R and n; and claims 22 through 26 for failure to point out what is selected from the group recited CaF<sub>2</sub>, MgF<sub>2</sub>, PbF<sub>2</sub> and BiF<sub>3</sub>.

Claim 2 has been amended to incorporate claim 3 that defines RFX as presented in the specification on page 3, paragraph [0009]. Claim 2 has also been amended to correct the typographical error of "RFn" to be "RFX".

Claims 22 through 26 have been amended to claim the RFX element is selected from one of the compositions of the group.

Claims 1 through 10 and 16 through 24 have been rejected under 35 USC 102(b) as being anticipated by Tran, U.S. Patent No. 5,809,199. The examiner has stated that Tran discloses a fluorophosphates glass comprising up to 25 mol % of  $Al_2(PO_3)_3$ ,  $Ba(PO_3)_2$ ,  $Mg(PO_3)_2$ , and  $NaPO_3$ , 20 to 45 %  $AlF_3$ , 25 to 65 mol %  $RF_2$  where R is an alkaline earth metal, up to 25 mol %  $LnF_3$  where Ln is a lanthanide, and up to 15 mol % MF where M is an alkali metal. Reference is made to column 3, lines 34 through 57. The examiner further states the ranges disclosed anticipate the limitations of claims 1 through 10 and 16 through 24.

The composition of Tran discloses a biocompatible optical fiber on base fluorophosphates glasses that includes an  $AlF_3$ , alkali earth fluorides, alkali fluorides, and lanthanide fluorides. All of the fluorophosphates glasses contain up to 15 mol % alkali fluorides that are relatively soluble in water. Also, metaphosphate  $NaPO_3$  is soluble.

The instant invention claims fluorophosphates glasses that do not include any form of alkali fluorides. All of the glass components, fluorides and metaphosphates, have a high chemical durability. There are no soluble salts or chemicals. In addition, the concentration of dopants may be as high as 20 wt % that may be a very high concentration for these types of glasses compared to the cites.

Claims 1 through 10 and 16 through 24 have been rejected under 35 USC 102(b) as being clearly anticipated by Yamazaki, U.S. Patent No. 5,755,998. The examiner has stated that Yamazaki, et al. disclose fluorophosphates glass compositions that disclose ranges of elements sufficiently specific to anticipate the limitations of claims 1 through 10 and 16 through 24.

The compositions of Yamazaki, et al. disclose fluorophosphates fluorescent glass capable of

converting invisible ultraviolet rays to visually observable rays. The fluorophosphates fluorescent glass contains divalent Eu, Tb, Mn or Sm capable of exhibiting a strong white fluorescence by irradiating ultraviolet rays. The concentration of divalent rare earth oxides is between 0.1 to 9.5 wt %.

In the instant invention the claimed doped fluorophosphates glasses with rare earth oxides or fluorides exist in three-valent form for the laser generation and amplifier effect. This is not disclosed or anticipated by the Yamazaki art. The dopants in the current application claim concentrations between 1 to 20 wt %.

Claims 1 through 6, 8, 9, 16 through 20 and 22 through 24 have been rejected under 35 USC 103(a) as being unpatentable over Kodama, U.S. Patent No. 4,386,163. The examiner has stated that Kodama teaches a fluorophosphates glass composition defined in wt % that when compared in equivalent molecular percent is included in the ranges of the instant invention.

While this may be true for some ranges of some of the elements, it does not appear to be correct for the alkali-earth fluorides,  $BaF_2 + MF_2$  that are claimed in the range of 50 to 85 %. The fluoride raw material conversion for the Kodama patent for  $MgF_2$ ,  $SrF_2$ ,  $BaF_2$ ,  $AlF_3$  and  $YF_3$  is 19 to 36 %. There is no overlap of the range. It appears from the disclosure that Kodama did not anticipate the benefit of use of alkali-earth fluorides in the range claimed for the instant invention.

It is believed with the clarifying amendments that the uniqueness of the instant invention is not disclosed or anticipated in the cited art.

Accordingly it is believed that the objections and rejections under 35 USC Section 102(b), 103(a) and 112 have been overcome by canceling and amending of the claims and the remarks, and withdrawal thereof is respectfully requested.

In view of the above, it is submitted that the claims are in condition for allowance. Reconsideration of the cause for rejections and objections is requested. Allowance of claims 1 through 10 and 16 through 26 is earnestly solicited.

No additional fee for claims is seen to be required.

If you have any questions do not hesitate to contact me.

Very truly yours,

A handwritten signature in black ink, appearing to read "Dennis W. Beech", with a stylized flourish at the end.

DENNIS W. BEECH  
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DWB/ab